

## RAW SEQUENCE LISTING

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Application Serial Number: 10/527,500  
Source: PCT  
Date Processed by STIC: 3-25-05

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PCT

## RAW SEQUENCE LISTING

DATE: 03/25/2005

PATENT APPLICATION: US/10/527,500

TIME: 11:11:04

Input Set : A:\66903-02 sequence listing.txt

Output Set: N:\CRF4\03252005\J527500.raw

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3 <110> APPLICANT: THE GOVERNMENT OF THE UNITED STATES OF AMERICA AS
4     REPRESENTED BY THE SECRETARY OF THE DEPARTMENT OF HEALTH AND
5     HUMAN SERVICES
6     Valenzuela, Jesus G.
7     Ribeiro, Jose M.C.
8     Kamhawi, Shaden
9     Belkaid, Yasmine
10    Fischer, Laurent Bernard
11    Audonnet, Jean-Cristophe
12    Milward, Francis William
14 <120> TITLE OF INVENTION: P. ARIASI POLYPEPTIDES AND P. PERNICIOSUS POLYPEPTIDES AND
15    METHODS OF USE
17 <130> FILE REFERENCE: 4239-66903-02
C--> 19 <140> CURRENT APPLICATION NUMBER: US/10/527,500
C--> 19 <141> CURRENT FILING DATE: 2005-03-11
19 <150> PRIOR APPLICATION NUMBER: PCT/US2003/029833
20 <151> PRIOR FILING DATE: 2003-09-18
22 <150> PRIOR APPLICATION NUMBER: US 60/425,852
23 <151> PRIOR FILING DATE: 2002-11-12
25 <150> PRIOR APPLICATION NUMBER: US 60/412,327
26 <151> PRIOR FILING DATE: 2002-09-19
28 <160> NUMBER OF SEQ ID NOS: 87
30 <170> SOFTWARE: PatentIn version 3.2
32 <210> SEQ ID NO: 1
33 <211> LENGTH: 446
34 <212> TYPE: PRT
35 <213> ORGANISM: Phlebotomus ariasi
37 <400> SEQUENCE: 1
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43 Gln Gln Val Ala Gln Asn Glu Ala Ser Pro Ala Lys Ser Gln Asp Ala
44          20          25          30
47 Met Tyr Gly Asp Trp Ser Arg Trp Ser Ser Cys Asp Glu Thr Cys His
48          35          40          45
51 Gln Thr Lys Val Arg Ser Cys Leu Gly Ala Val Cys Glu Arg Asn Arg
52          50          55          60
55 Leu Met Lys Glu Arg Lys Cys Pro Gly Cys Gly Thr Lys Val Arg Ile
56 65          70          75          80
59 Val Gln Lys Leu Leu Gln Leu Phe Gly Met Gly Asp Ser Ile Glu Thr
60          85          90          95
63 Asp Tyr Glu Asp Asp Tyr Gly Glu His Trp Leu Thr Asp Asp Arg Val
64          100         105         110
67 Ile Ser Ser Arg Asn Asp Pro Glu Ser Ala Glu Ser Asp Glu Leu Gly

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71 Ser Phe Phe Arg Asp Phe Phe His Ser Phe Asp Phe Glu Trp Lys Asn
72          130          135          140
75 Pro Phe Ser Asn Pro His Glu Asn Asn Asp Val Asp Leu Glu Val Glu
76 145          150          155          160
79 Glu Asp Glu Glu Val Glu Glu Leu Pro Glu Ile Arg Thr Ser Asn Glu
80          165          170          175
83 Glu Asp Ser Val Ser Gly Ala Asp His Val Cys Gly Val Thr Lys Asn
84          180          185          190
87 Glu Arg Ser Ser Gly Met Met Ala Lys Thr Ile Gly Gly Arg Asn Ser
88          195          200          205
91 Lys Lys Gly Arg Trp Pro Trp Gln Val Ala Leu Tyr Asn Gln Glu Tyr
92          210          215          220
95 Glu Asn Phe Phe Cys Gly Thr Leu Ile Ser Lys Tyr Trp Val Ile
96 225          230          235          240
99 Thr Ala Ala His Cys Leu Ile Ser Asp Phe Gly Ser Asp Ile Thr Ile
100          245          250          255
103 Phe Ser Gly Leu Tyr Asp Thr Gly Asp Leu Val Glu Ser Pro Tyr Ser
104          260          265          270
107 Ile His Leu Val Arg Asp Arg Val Ile His Pro Arg Tyr Asp Ala Glu
108          275          280          285
111 Thr Asn Asp Asn Asp Ile Ala Leu Leu Arg Leu Tyr Asn Glu Val Lys
112          290          295          300
115 Leu Ser Asp Asp Val Gly Ile Ala Cys Leu Pro Ser Tyr Ser Gln Ala
116 305          310          315          320
119 Ser Pro Gly Arg Ser Glu Val Cys Lys Val Leu Gly Trp Gly Gln Gly
120          325          330          335
123 Thr Arg Arg Thr Lys Leu Gln Glu Ala Asp Met His Ile Gln Pro Ala
124          340          345          350
127 Asn Ser Cys Lys Arg His Tyr Tyr Gly Thr Gly Gln Leu Val Thr Arg
128          355          360          365
131 His Met Leu Cys Ala Ser Ser Arg Asn Tyr Val Ser Asp Thr Cys Gly
132          370          375          380
135 Gly Asp Ser Gly Gly Pro Leu Leu Cys Arg Asp Thr Lys Ser Pro Ala
136 385          390          395          400
139 Arg Pro Trp Thr Leu Phe Gly Ile Thr Ser Phe Gly Asp Asp Cys Thr
140          405          410          415
143 Val Ser Glu Ser Pro Gly Val Tyr Ala Arg Val Ala Ser Phe Arg Lys
144          420          425          430
147 Trp Ile Asp Ser Val Ile Glu Cys Asp Gly Ser Cys Asp Asn
148          435          440          445
151 <210> SEQ ID NO: 2
152 <211> LENGTH: 1520
153 <212> TYPE: DNA
154 <213> ORGANISM: Phlebotomus ariasi
156 <400> SEQUENCE: 2
157 acttgatcgat cactttttcac tcgctccaga cgcatttttg cgctcttcag ccgtgattag      60
159 cacaaagtgt tttagaattt ggtgaaaaaa tagcaagata aggatgaaat tagtgccatt      120
161 gtgtattttta gtgtgttttc taatcatcgc gcagcaggtg gctcagaatg aagcatctcc      180

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163 cgccaaaagc caagacgcca tgtacgggtga ttggagtcgt tggagctcct gtgacgagac      240
165 ttgccatcag acgaagggtga gatcgtgcct aggggctgtc tgtgagcgga atcgactgat      300
167 gaaggagcga aaatgtccag gatgtggtac aaaagtgcga attgtacaga aacttcttca      360
169 gctcttcggc atgggagact ccatagagac tgactatgaa gatgactatg gagagcactg      420
171 gctaaactgat gacagagtca ttagttctag gaatgatacct gaaagtgcag aaaagtgatga      480
173 attgggatca ttcttcaggg atttcttcca ttcatcgcgt tttgagtggg aaaatccatt      540
175 tagcaatccc catgagaaca atgatgtgga cttggagggtg gaggaagatg aggaagtga      600
177 agaacttccc gaaattagga cttctaataa ggaggattct gtctctgggg cggatcacgt      660
179 gtgtggagtg accaagaatg agagatcttc agggatgatg gcaaaaacta tcggcgggag      720
181 gaactcgaag aagggtcgat ggccctggca agtggtctct tataaccagg aatatgagaa      780
183 tttcttctgc ggcgggactc ttatctcaaa atactgggtc ataacggcg ctcactgtct      840
185 gatatctgac ttcggcagtg acatcacgat cttctccggc ctgtacgaca ccggagatct      900
187 cgtggagtcg ccctacagca tccacctggt gcgggatcga gtgattcatc cgcgctacga      960
189 cgccgaaacc aatgacaatg atatcgccct gctgaggctc tacaacgaag tgaaattgag     1020
191 cgatgatgtg ggtatcgctt gtctgcccag ctactcgcaa gcctccccgg gacgcagtga     1080
193 ggtgtgcaag gtgctgggct ggggccaagg gacacgtcga accaaaactcc aggaggccga     1140
195 catgcacatc caaccgcga actcctgcaa gcgccactac tacggcaccg gacaactcgt     1200
197 cacgcgtcac atgctgtgcg cctcctcccg gaactacgtc agcgacacgt gtggcgggtga     1260
199 ttccgggtga ccactgctgt gtcgcgacac caaatcccc gcccgacctt ggacgctgtt     1320
201 cggcatcacg agcttcggtg acgattgcac ggtgagcgag agtccgggtg tttatgcgcg     1380
203 cgtcgccctc ttccggaagt ggattgactc cgtcatcgag tgcgacggct cttgtgacaa     1440
205 ttaataaact cacaatatta tcagtgaaaa aataaattag caaatttaat gcaaaaaaaaa     1500
207 aaaaaaaaaa aaaaaaaaaa                                     1520
210 <210> SEQ ID NO: 3
211 <211> LENGTH: 251
212 <212> TYPE: PRT
213 <213> ORGANISM: Phlebotomus ariasi
215 <400> SEQUENCE: 3
217 Met Asn Ile Leu Leu Lys Val Ala Ile Leu Val Ser Leu Cys Glu Ile
218 1 5 10 15
221 Gly Tyr Ser Trp Lys Tyr Pro Arg Asn Ala Asp Gln Thr Leu Trp Ala
222 20 25 30
225 Trp Arg Ser Cys Gln Lys Gly Asn Tyr Asp Pro Glu Leu Val Lys Lys
226 35 40 45
229 Trp Met Ala Phe Glu Ile Pro Asp Asp Glu Val Thr His Cys Tyr Ile
230 50 55 60
233 Lys Cys Val Trp Thr His Leu Gly Met Tyr Asp Glu Thr Ser Gln Thr
234 65 70 75 80
237 Ile Arg Ala Asp Arg Val Lys Gln Gln Phe Lys Ala Arg Gly Leu Ser
238 85 90 95
241 Val Pro Ala Glu Ile Ser His Leu Glu Gly Ser Thr Gly Gly Ser Cys
242 100 105 110
245 Val Thr Ile Tyr Lys Lys Thr Arg Ala Phe Leu Glu Thr Gln Met Pro
246 115 120 125
249 Asn Tyr Arg Ile Ala Phe Tyr Gly Thr Val Glu Glu Ser Asp Lys Trp
250 130 135 140
253 Phe Ala Asn Asn Pro Glu Thr Lys Pro Lys Arg Ile Lys Ile Ser Asp
254 145 150 155 160
257 Phe Cys Lys Gly Arg Glu Ala Gly Thr Glu Gly Thr Cys Lys His Ala

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258                               165                               170                               175
261 Cys Ser Met Tyr Tyr Tyr Arg Leu Val Asp Glu Asp Asn Leu Val Ile
262                               180                               185                               190
265 Pro Phe Arg Lys Leu Pro Gly Ile Leu Asp Ser Gln Leu Glu Gln Cys
266                               195                               200                               205
269 Arg Asp Gln Ala Ser Ser Glu Thr Gly Cys Lys Val Gly Asp Thr Ile
270                               210                               215                               220
273 Tyr Asn Cys Leu Asn Arg Ile Asn Pro Glu Gly Leu Lys Lys Ala Leu
274 225                               230                               235                               240
277 Asn Thr Leu Asp Glu Gln Ser Leu Thr Leu Tyr
278                               245                               250
281 <210> SEQ ID NO: 4
282 <211> LENGTH: 815
283 <212> TYPE: DNA
284 <213> ORGANISM: Phlebotomus ariasi
286 <400> SEQUENCE: 4
287 aaaatgaata tcttattgaa agttgcgatt ttggtgagct tgtgcgaaat tgggtactct      60
289 tggaatatc ccaggaatgc cgatcaaact ctctgggctt ggagatcatg ccaaaaggga      120
291 aactatgacc cagaattagt gaagaaatgg atggcttttg aaatcccaga cgacgaagta      180
293 actcattggt acattaagtg tgtttggact catttgggaa tgtacgatga aactagccaa      240
295 actattagag ctgatagagt caagcaacaa ttcaaggctc gtggactatc agttcctgct      300
297 gaaataagcc atttagaggg atctacagga ggatcctgtg taacgattta caaaaaaact      360
299 agggctttcc ttgaaactca aatgccgaat tatcgcatcg cattctatgg cactgtggaa      420
301 gaatcagata agtggttcgc gaataatccc gaaactaaac ccaagagaat taagatttct      480
303 gacttctgca aaggctcgca agctggaacg gaaggaactt gcaagcatgc ttgcagcatg      540
305 tactactacc gcttagtcga tgaggataat cttgtgattc ctttcaggaa gttgccagga      600
307 atcttagatt cccaacttga acaatgcagg gatcaagcta gttcggaaac tggatgcaaa      660
309 gttggtgata caatctacaa ttgtcttaac agaattaatc cggaaggctc taaaaaagca      720
311 ttgaatacac tcgatgaaca atcattgacg ttgtattaga aagcaataaa cttgattaag      780
313 aaaaacaaaa aaaaaaaaaa aaaaaaaaaa aaaaa      815
316 <210> SEQ ID NO: 5
317 <211> LENGTH: 388
318 <212> TYPE: PRT
319 <213> ORGANISM: Phlebotomus ariasi
321 <400> SEQUENCE: 5
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324 1                               5                               10                               15
327 Leu Ala Ser Gln Ile Glu Arg Glu Tyr Ala Trp Lys Asn Ile Ile Tyr
328                               20                               25                               30
331 Glu Gly Ile Asp Gln Gly Ser Tyr Asn Ile Glu Asn Ser Ile Pro Thr
332                               35                               40                               45
335 Ala Phe Ala His Asp Ala Ala Ser Lys Lys Ile Phe Ile Thr Ile Pro
336                               50                               55                               60
339 Arg Ile Asn Gln Val Pro Ile Thr Leu Thr Glu Phe Asp Ser Ile Lys
340 65                               70                               75                               80
343 Tyr Pro Gly Gly Ser Pro Pro Leu Ser Lys Phe Pro Gly Ser Asp Asn
344                               85                               90                               95
347 Ile Ile Ser Val Tyr Gln Pro Val Ile Asp Glu Cys Arg Arg Leu Trp
348                               100                              105                              110

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351 Ile Val Asp Ala Gly Gln Val Glu Tyr Lys Gly Asp Glu Gln Lys Tyr
352           115           120           125
355 Pro Lys Lys Asn Pro Ala Ile Ile Ala Tyr Asp Leu Thr Lys Asp Asn
356           130           135           140
359 Tyr Pro Glu Ile Asp Arg Tyr Glu Ile Pro Ile Asn Ile Ala Gly Asn
360 145           150           155           160
363 Pro Leu Gly Phe Gly Gly Phe Thr Val Asp Val Thr Asn Pro Lys Glu
364           165           170           175
367 Gly Cys Gly Lys Thr Phe Ile Tyr Ile Thr Asn Phe Glu Asp Asn Thr
368           180           185           190
371 Leu Ile Val Tyr Asp Gln Glu Lys Lys Asp Ser Trp Lys Ile Ser His
372           195           200           205
375 Gly Ser Phe Lys Pro Glu His Glu Ser Ile Leu Ile His Asn Gly Val
376           210           215           220
379 Asp His Ile Leu Lys Leu Gly Ile Phe Gly Ile Thr Leu Gly Asp Arg
380 225           230           235           240
383 Asp Ser Glu Gly Asn Arg Pro Ala Tyr Tyr Leu Gly Gly Ser Ser Thr
384           245           250           255
387 Lys Leu Phe Glu Val Asn Thr Lys Ala Leu Lys Lys Lys Glu Gly Glu
388           260           265           270
391 Ile Glu Pro Ile Thr Leu Gly Asp Arg Gly Pro His Ser Glu Ala Ile
392           275           280           285
395 Ala Leu Ala Tyr Asp Pro Lys Thr Lys Val Ile Phe Phe Thr Glu Tyr
396           290           295           300
399 Asn Ser Lys Lys Ile Ser Cys Trp Asn Ile Lys Lys Pro Leu Ile His
400 305           310           315           320
403 Asp Asn Met Asp Lys Ile Tyr Ala Ser Pro Glu Phe Ile Phe Gly Thr
404           325           330           335
407 Asp Ile Ser Val Asp Ser Glu Ser Lys Leu Trp Phe Phe Ser Asn Gly
408           340           345           350
411 His Pro Pro Ile Glu Asn Leu Gln Leu Ser Ser Asp Lys Pro His Ile
412           355           360           365
415 His Leu Ile Ser Val Asp Thr Glu Lys Ala Ile Arg Gly Thr Lys Cys
416           370           375           380
419 Glu Val Lys Ala
420 385
423 <210> SEQ ID NO: 6
424 <211> LENGTH: 1268
425 <212> TYPE: DNA
426 <213> ORGANISM: Phlebotomus ariasi
428 <400> SEQUENCE: 6
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431 tcagggagct ttagcttctc aaattgaaag ggaatacgcg tggaaaaaca ttatttatga      120
433 agggatagat caaggatcct acaacattga aaacagcatc ccaactgctt tcgctcacga      180
435 tgcagctagt aagaagattt tcatcactat tccaagaata aaccaagtac caataaccct      240
437 aactgaattt gatagcatca agtatccggg aggttctcct cctcttagca aattccctgg      300
439 aagcgataac ataatttccg tttatcaacc ggtcattgac gaatgtcgta gactttggat      360
441 tgtggacgct ggacaggttg agtacaaggg agatgagcag aagtatccca agaaaaatcc      420
443 tgctatcata gcttatgacc tgactaagga caattatcct gagattgac gatacgagat      480

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**VERIFICATION SUMMARY**

PATENT APPLICATION: US/10/527,500

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L:19 M:271 C: Current Filing Date differs, Replaced Current Filing Date